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which of wireless mobile clients **108** are to participate in the display of one or more luminescent crowd patterns, and which picture elements are to be displayed by each of the participating ones of wireless mobile clients **108**. In one embodiment, communication server **300** determines which constituent luminescent pattern(s) of the larger crowd pattern are to be transmitted to the participating ones of wireless mobile clients **108**. Such a determination may be made e.g. based upon the relative location of the participating wireless mobile clients **108** as determined with respect to the location of other wireless mobile clients, or with respect to a fixed location within a given venue. In another embodiment, communication server **300** may transmit an entire crowd pattern to one or more wireless mobile clients leaving the responsibility of luminescent pattern selection up to the individual wireless mobile client. By doing so, communication server is freed from the processing requirements associated with determining which one or more constituent luminescent pattern(s) are to be displayed by a given wireless mobile client.

Registration services **305** are responsible for identifying which one or more wireless mobile clients are to participate in the luminescent display of one or more crowd patterns, and to store identifiers for each such participating wireless mobile client in e.g. visualization configuration records **310**. In accordance with one embodiment of the invention, visualization agent **304** provides interactive voice response services, which may be responsive to voice and/or DTMF tones supplied by users of wireless mobile clients. In such an embodiment, users of wireless mobile clients **108** may call a generic dial number associated with communication server **300** to register himself or herself as participating in the display of one or more crowd patterns. User registration

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may be accomplished e.g. by the user reacting to voice prompts guiding the user through a call tree until an appropriate selection has been made. For example, a user may be able to enter an event code (e.g. '126') representing the related event (and by association, the venue), which is then associated with a user-specific identifier. In one embodiment, the user-specific identifier is the dial number associated with the user's wireless mobile client, which may be obtained through e.g. a dialed number identification service (DNIS). In other embodiments, users of wireless mobile clients 108 may register as participating in the display of one or more crowd patterns via one or more packet-based wireless technologies such as the web access protocol (WAP) messages, as well as through short message service (SMS) messages, for example.

Once the user has been identified to communication server 300, the user may continue by providing the user's location to communication server 300. For example, the user may provide their respective venue seating information (i.e. section number. row number, seat number and so forth) to communication server 300, which is further stored in visualization configuration records 310 in association with the user-specific identifier. In other embodiments, users' locations may be determined by positional systems such as GPS that are based on triangulation. However, location information will be only as accurate as is allowed by the particular positional system based upon technological limitations as well as any artificial accuracy limitations that may be imposed by a group such as e.g. the Government or military. In an alternative embodiment, rather than calling a generic dial number to register as a participating user, users may call an event-specific dial number pre-associated with a particular event

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and/or venue. Accordingly, the user may not be required to provide an event and/or venue specific code when registering with communication server **300**.

In certain embodiments, the communication session established between a wireless mobile client and communication server 300 is terminated once the user has registered their identity (and perhaps location) with the communication server, and the appropriate one or more luminescent patterns have been received by the wireless mobile client from the communication server. In other embodiments, the communication session established between a wireless mobile client and communication server 300 is sustained for a longer duration. In one embodiment, the communication sessions between communication server 300 and wireless mobile clients 108 may be sustained for an extended duration such that communication server 300 may periodically transmit new patterns or sequences to the crowd. For example, communication server 300 may transmit a single pattern every 1/10 of a second in order to maintain synchronization between wireless mobile clients 108 and communication server 300. In other embodiments, the communication sessions between communication server 300 and wireless mobile clients 108 may be sustained for an extended duration to allow for further interaction (i.e. feedback) between the user and the communication server. More specifically, participating (i.e. registered) users within a given venue may be verbally solicited with a question that is posed to the crowd via the public address system or through the one or more wireless mobile clients. In response, the communication server may then transmit one or more luminescent patterns to the responding wireless mobile clients based upon the users' respective responses to the questions. For example, spectators at a sporting event may be asked

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